

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET • SUITE 200
EUREKA, CA 95501-1865
VOICE (707) 445-7833
FACSIMILE (707) 445-7877

MAILING ADDRESS:
P. O. BOX 4908
EUREKA, CA 95502-4908



F7b

Date Filed:	November 8, 2002
49 th Day:	December 27, 2002
180 th Day:	May 7, 2003
Staff:	Jim Baskin
Staff Report:	November 22, 2002
Hearing Date:	December 13, 2002
Commission Action:	

STAFF REPORT:
PERMIT AMENDMENT

APPLICATION NO.: **A-1-FTB-99-006-A3**

APPLICANTS: **CALIFORNIA DEPARTMENT OF TRANSPORTATION
(CALTRANS) DISTRICT 3**

PROJECT LOCATION: Highway One Noyo River Bridge within the City of Fort Bragg, Mendocino County

DESCRIPTION OF PROJECT

PREVIOUSLY APPROVED: Replace the existing two-lane, 36-ft.-wide Noyo River Bridge with an 86.6-ft.-wide, 875-ft.-long, triple cast-in-place (CIP) concrete box girder bridge. The proposed bridge would accommodate four 12-ft. lanes, a 12-ft. median, 8-ft. outside shoulders with 6-ft. sidewalks placed on both sides. Construction of the bridge will require the installation and subsequent removal of temporary falsework and trestles involving: 1) the driving of approximately 224 temporary piers displacing approximately 2,000 sq. ft. of the river; and 2) constructing an approximately 30,000 sq. ft. temporary trestle for construction access.

DESCRIPTION OF

AMENDMENT REQUEST: Substitute the previously-approved Type 80SW railing and concrete barrier with an inboard Type ST-10 railing and TRACC

(metal beam) crash cushion, and outboard picket railing for the replacement Noyo River Bridge.

SUBSTANTIVE FILE

DOCUMENTS:

1. Noyo River Bridge Replacement Negative Declaration, Initial Study/Environmental Assessment (November, 1998);
2. Programmatic Section 4(f) Analysis for the Noyo River Bridge Replacement Project on State Route 1;
3. Project Scope Summary Report Structural Rehabilitation (Functional PSR);

SUMMARY OF STAFF RECOMMENDATION:

The staff recommends that the Commission approve with conditions, the requested amendment to the coastal development permit originally granted for the replacement of the Highway 1 bridge over the Noyo River within the City of Fort Bragg. The original 1999 permit authorized the construction of a "Type 80 SW" bridge railing design that would have substantially reduced views to and along the ocean and scenic coastal areas.

The Type 80SW railing was approved because at that time no other, less-visibly obtrusive railing design had been approved for such use within the State of California. Since that time, Caltrans has reviewed, tested, and approved several alternative railing systems that could be used on the replacement Noyo River Bridge. Some of these designs were presented at a public workshop held on September 4, 2002, in Fort Bragg and the proposed "ST-10" dual railing and picket system was the over-whelming favorite among the polled attendees.

Caltrans now proposes to amend the bridge replacement project to substitute the ST-10 dual railing /picket and TRACC™ (Trinity Attenuating Crash Cushion) metal beam end section for the previously-approved Type 80SW single railing. Caltrans believes that by substituting the ST-10 railing, spoke picket fence, and TRACC™ end section for the Type 80SW rail will lessen the bridge replacement project's impacts on visual resources. In addition, the amendment request will satisfy Special Condition No. 17 (see Exhibit No. 8), a special condition attached to a previous amendment of the permit requiring that a subsequent request to amend the design of the bridge railing include "a bridge railing design that will provide additional visual access beyond that included in the design currently authorized by the original permit."

Commission staff concur with Caltrans insofar as concluding that the proposed ST-10 railing system would afford greater visibility of views to and along the coast and coastal scenic areas than the Type 80SW railing system. However, staff believe impacts to visual resources can be further reduced through the use of the shorter-length Quadguard®

crash barrier end section instead of the TRACC™. In addition, staff believe the visual aesthetics of the railing system would likewise be further enhanced by painting the metal portions of the QuadGuard® end section to match the green color proposed for the ST-10 railing components. Two Special Conditions have been recommended to make these modifications requirements of the permit amendment authorization to ensure conformance with applicable LCP policies.

As conditioned, staff has determined that the proposed development with the proposed amendment would be consistent with the certified LCP and the access and recreation policies of the Coastal Act.

STAFF NOTES:

1. Background.

On March 12, 1999, Coastal Permit No. A-1-FTB-99-006 (Caltrans) was approved by the Commission with seven special conditions intended to address public trust concerns, environmentally sensitive habitat, public access, and visual, water quality, and other coastal resource issues. A copy of the adopted special conditions is attached as Exhibit No. 8 of this report.

Special Condition No. 5 requires the applicant to comply with all mitigation measures identified within the Mitigated Negative Declaration adopted for the project. Special Condition No. 6 gave the option to Caltrans to construct a public scenic viewing area at the Noyo Headlands or provide a \$1 million in-lieu mitigation fee that could be used by an approved third party to construct the viewing area or a similar public access improvement elsewhere in the Fort Bragg coastal zone to offset visual resource impacts of the replacement bridge. Special Condition No. 7 established that any future modifications to the replacement bridge, its railings, sidewalks, shoulders, traffic lanes, or median would require a permit amendment to be secured from the Commission. Special Condition No. 8 required that all construction debris be promptly removed from the site following completion of construction and disposed of at an authorized disposal site. Special Condition No. 9 requires the applicant to monitor and report on the condition compliance for a period of three years during and after construction. Special Condition No. 10 requires Caltrans to submit and receive approval from the Executive Director of a pollution prevention plan prior to commencing construction. Finally, Special Condition No. 11 requires that an erosion control and revegetation plan be prepared and submitted to the Executive Director for approval.

Upon satisfying all prior-to-issuance conditions, the coastal development permit was issued on March 25, 1999. Revised findings for the permit were adopted by the Commission on February 16, 2000. On February 9, 2001, all prior-to-commencement-of-construction conditions were satisfied.

On March 28, 2001, citing changes in circumstances that would make construction of the replacement bridge under the terms of the existing permit infeasible, Caltrans applied for a permit amendment to expand and define a construction staging area and access route within Ocean Front Park, beneath the bridge's northern abutment. The amendment also requested provisions for closure of the park for specified periods during crucial phases of the replacement bridge's construction. The Commission approved the requested amendment with conditions on May 11, 2001. Six additional special conditions were attached to the permit amendment: Special Condition No. 12 requires that a revised water pollution control plan be prepared and submitted for the Executive Director's approval addressing efforts to protect water quality associated with the construction activities within the Ocean Front Park staging area. Special Condition No. 13 requires that a revised revegetation plan be prepared and submitted for the Executive Director's approval addressing efforts to prevent erosion associated with development within the Ocean Front Park staging area. Special Condition No. 14 sets limits on the closures of the North Harbor Drive entrance to Ocean Front Park to avoid adverse impacts on coastal access and recreational uses. Special Condition No. 15 sets limits on the spatial extent of areas to be used for construction staging and access within Ocean Front Park. Special Condition No. 16 requires the Executive Director be provided with a copy of the Waste Discharge Requirements issued by the North Coast Regional Water Quality Control Board (NCRWQCB) for the amended project, or letter of permission, or evidence that no revised discharge permit will be issued. Special Condition No. 17 requires that the applicant file by November 11, 2002 a request to amend the design of the bridge railing to one that will provide additional visual access beyond that included in the originally permitted design.

On July 19, 2001, Caltrans requested a second amendment to the permit to make minor changes to the staging area egress route and establish a public parking and turning area within the Noyo Harbor area for use by the public during closures of Ocean Front Park. The requested project changes were approved by the Executive Director under an immaterial permit amendment considered by the Commission on October 11, 2001.

Concurrent with the various actions taken by the applicant to satisfy permit conditions and seek authorizations to modify the project as needed, in 2000, the Commission chair appointed a sub-committee of Commission members to study and make recommendations as to which bridge railing designs would be appropriate for use in scenic coastal settings. Both currently existing models as well as new styles that could be developed at a future time were to be considered.

Caltrans representatives participated in these meetings and presented a total of four currently available dual-railing designs: the Type 80, the so-called "Alaska," "Wyoming," and "Minnesota," and one pending (at that time) design, the proposed ST-10. Dual-rail options include railings on each side of the sidewalk whereas single-rail option includes only a railing on the outside of the sidewalk.

The sub-committee reviewed the various designs and rated the railings, finding the Alaska railing as most appropriate for coastal settings given its minimized obstruction of views. The Wyoming rail rated second in preference, with the sub-committee taking note of its less industrial-looking aesthetics. The Type 80 railing rated a third place, with caveats that the design should not be used where immediate views of the coast are not an immediate concern, and where incorporating a natural textural appearance or color scheme into the rails components might be necessary for purposes of finding the railing visually compatible with its surroundings. The Minnesota rail was ranked last place and deemed not a preferred choice for use within the coastal zone. The sub-committee's recommendations were subsequently endorsed by the full Commission (see Exhibit No. 9).

As the proposed ST-10 rail was not available for use at the time of the sub-committees review, the design was not included in the rating hierarchy. Although the sub-committee acknowledged that the ST-10 did incorporate some of the favorable characteristics of the preferred available designs, the rail's bulky appearance, due to its use of standard I-beam components, was seen as a significant aesthetic drawback. Accordingly, the Commission offered several points of input regarding the development of the ST-10 railing that should be addressed by Caltrans in designing the ST-10.

To solicit public opinion on alternative see-through bridge railings being considered for the new Noyo Bridge, Caltrans held a public open house on September 4, 2002, in Fort Bragg. Six alternative railing designs were presented: Two single-rail options, the previously-approved Type 80SW and a modified version of the New England Transportation Consortium (NETC) 4-bar system, and four dual-rail options, the ST-10, Type 80, and the "Alaska" and "Wyoming" models (see Exhibit No. 7).

A questionnaire was distributed among the workshop attendees, soliciting their opinions regarding the six alternative railings, two alternative rail-end crash cushions (TRACC and ADIEM), and which factors they considered most important in selecting a rail for the Noyo River Bridge. Table One below summarizes the results of the survey:

Of the 103 responses, 72% selected the California ST-10 as their most favored railing, with 11% for the NETC single rail design, 10% for the single rail type 80SW, the concrete rail originally proposed by Caltrans. The other three railings shown all received 3% or less of the votes. With respect to crash cushion preferences, the respondents chose the TRACC™ metal beam cushion by a 58% majority compared to the 42% in favor of the ADIEM 350™ alternative, consisting of lightweight concrete blocks on concrete base.

The public attendees were also asked to indicate what they deemed to be the top three factors (of seven options plus a write-in "other" category) that should be consider in any subsequent bridge railing permit amendment proposal. The top three choices selected

were: (1) “views afforded the driver;” (2) “safety for pedestrians;” and (3) “pleasing appearance.”

On September 26, 2002, in conformance with Special Condition No. 17 of Coastal Development Permit Nos. 1-98-100-A1 and A-1-FTB-99-006-A1, Caltrans filed a third permit amendment for the subject railing substitution, requesting that the project changes be processed as an immaterial amendment. On October 9, 2002, the request was reported to the Commission who objected to the Executive Director’s determination of the amendment immateriality and directed that the project modifications be processed as a material permit amendment subject to a full public hearing.

2. Procedural Note.

Section 13166 of the California Code of Regulations states that the Executive Director shall reject an amendment request if: (a) it lessens or avoids the intent of the approved permit; unless (b) the applicant presents newly discovered material information, which he or she could not, with reasonable diligence, have discovered and produced before the permit was granted.

Regarding the first prong of these permit amendment acceptance criteria, the Executive Director has determined that the proposed amendment would not lessen or avoid the intent of the approved permit and subsequent permit amendments with regard to visual resources. The original permit issued by the Commission contemplated that views to and along the ocean and to scenic coastal areas would be adversely impacted by construction of the replacement bridge railing. In-lieu mitigation fees were assessed to partially offset these lost views through acquisition and development of an offsite coastal viewing area. In addition, in considering an amendment to the original permit, the Commission attached Special Condition No. 17 which required the applicant to file by November 11, 2002, a subsequent request to amend the design of the bridge railing to one that would provide additional visual access beyond that provided by the Type 80SW design authorized by the original permit. Accordingly, as the proposed permit amendment would result in lessening impacts to visual resources the proposed amendment request is consistent with the intent of the originally approved permit.

Therefore, based on the information presented by Caltrans, and for the reasons discussed above, the Executive Director has found that the proposed amendment would not lessen or avoid the intent of the approved permit. Accordingly, the Executive Director accepted the amendment request for processing.

3. Concurrent Review of Coastal Development Permit Amendment Request No. 1-98-100-A3.

The Noyo River Bridge replacement project is bisected by the boundary between the Commission’s area of retained coastal development permit jurisdiction and the permit

jurisdiction of the City of Fort Bragg. Accordingly, pursuant to Section 30600 *et seq.* of the Coastal Act, the applicant must obtain separate coastal development permits for each portion of the project lying within the two jurisdictions. Amendments to these permits are to be issued separately, each addressing only those portions of the original permit lying within the respective jurisdiction, if any, affected by the amendment. In this case, the proposed revised project entails changes to authorized development within both the Commission's original and appellate jurisdiction areas. Accordingly, the Commission must consider and take action on two separate, but functionally related permit amendments.

The applicant has submitted site plans and related information and materials that propose to amend the originally approved project description. For those portions of the bridge replacement project within the appeal area of the City of Fort Bragg permit jurisdiction, the revised site plan proposes to: (a) substitute the previously approved Type 80SW single-rail system with the dual ST-10 railing and picket along the approximately 510-foot length of the west side of the bridge; (b) substitute the previously approved Type 80SW single-rail system with the dual ST-10 railing and picket along the approximately 640-foot length of the east side of the bridge; and (c) install two TRACC crash cushion end sections, one each at the approach ends of the railings. All other issues of the proposed permit amendment concerning substitution of other portions of the bridge railing are addressed in the associated staff report for Coastal Development Permit Amendment No. 1-98-100-A3 which will also be considered by the Commission at the December 13, 2002 meeting.

4. Commission Jurisdiction and Standard of Review.

Those portions of the bridge replacement project subject to this coastal development permit amendment are located within the coastal development permit jurisdiction of the City of Fort Bragg. The Coastal Commission effectively certified Fort Bragg's LCP in October of 1992. Pursuant to Section 30604(b) of the Coastal Act, after effective certification of a certified LCP, the standard of review for all coastal permits and permit amendments within the certified area is the certified LCP and the public access policies of the Coastal Act.

5. Scope.

This staff report addresses only the coastal resource issues affected by the proposed permit amendment, provides recommended special conditions to reduce and mitigate significant impacts to coastal resources and achieve consistency with the certified LCP and the public access and recreation policies of the Coastal Act, and provides findings for conditional approval of the amended project. All other analysis, findings, and conditions related to the originally permitted project and preceding amendments thereto, except as specifically affected by the proposed permit amendment and addressed herein, remain as adopted by the Commission on February 16, 2000, May 11, 2001, and October 11, 2001.

[see Revised Findings Staff Report for Coastal Development Permit Nos. A-1-99-006, A-1-99-006-A1, and A-1-99-006-A2, dated January 21, 2000, April 27, 2002, and October 10, 2002, respectively.]

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve the proposed amendment to Coastal Development Permit No. A-1-FTB-99-006-A2 pursuant to the staff recommendation.

Staff Recommendation of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve with Conditions:

The Commission hereby approves the proposed permit amendment and adopts the findings set forth below, subject to the conditions below, on the grounds that the development with the proposed amendment, as conditioned, will be in conformity with the certified City of Fort Bragg LCP and the public access policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because all feasible mitigation measures and alternatives have been incorporated to substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See attached.

III. SPECIAL CONDITIONS:

Note: Special Conditions Nos. 1-10 of the original permit and Special Conditions Nos. 12-16 of Coastal Development Permit Amendment Nos. 1-98-100-A1 and A-1-FTB-99-006-A1 remain in force and are included in Exhibit No. 8. Special Conditions Nos. 18

and 19 below, are additional conditions imposed as part of Coastal Development Permit Amendment No. 1-98-100-A3.

18. Required Use of Quadguard® Crash Barrier End Section

The crash barrier railing end sections to be installed on the replacement Noyo River Bridge at: (1) the northern terminus of the approved ST-10 inner-railing to be constructed along the southbound lane (10-176-R); and (2) at the southern terminus of the approved ST-10 inner-railing to be constructed along the northbound lane (10-176-L) shall be QuadGuard® crash barrier end sections.

19. Design Restrictions

All exposed metal portions of the QuadGuard® crash cushion end-sections required by Special Condition No. 18, with the exception of the traffic-facing painted safety warning panel portions of the barriers, shall be painted green to match the color of the approved ST-10 dual-railing system.

IV. FINDINGS AND DECLARATIONS

The Commission finds and declares the following:

A. Coastal Zone Jurisdiction.

The portion of the amended project authorized herein, consisting of those portions of the replacement bridge decking above the banks and adjoining bluffs of the Noyo River, are located within the appeal area of the City of Fort Bragg's certified Local Coastal Program (see Exhibit No. 4). Therefore, the permit amendment request is being processed by the Commission using the policies of certified LCP and the public access policies of the Coastal Act as the standard of review. Other portions of the amended project, including the central bridge span, piers, and abutments (generally, the portions of the bridge that extend over the river, totaling approximately 700 lineal feet), are within the Commission's original coastal development jurisdiction. Those portions of the amended project are addressed in the associated staff report for Coastal Development Permit Amendment No. 1-98-100-A3.

B. Site Description.

The site of the proposed amended project consists of areas within and adjacent to the State Route 1 crossing of the Noyo River. The existing Noyo River Bridge was built in 1948 and provides the main access to Fort Bragg from the south. In this area, the coastal zone boundary is located along the easterly side of the Highway 1 right-of-way (see Exhibit No. 2). The bridge crosses the Noyo River between the 110-ft-high bluffs above

the Noyo Harbor entrance. Noyo Harbor is an important regional commercial fishing center and is developed with a variety of coastal-dependent commercial-industrial and visitor-serving facilities. The port provides the only “harbor of refuge” along the California Northcoast between Bodega Bay and Humboldt Bay.

C. Project Description.

The original permit as approved by the Commission authorized replacing the existing two-lane, 36-ft.-wide Noyo River Bridge with an 86.6-ft.-wide, 875-ft.-long, triple cast-in-place (CIP) concrete box girder bridge. Construction of the bridge would require the installation and subsequent removal of temporary falsework and trestles involving: 1) the driving of approximately 224 temporary piers displacing approximately 2,000 sq. ft. of the river; and 2) the construction of an approximately 30,000 sq. ft. temporary trestle for construction access.

The replacement bridge will accommodate four 12-ft. lanes, a 12-ft. median, 8-ft. outside shoulders with 6-ft. sidewalks placed on both sides. A Type 80SW bridge deck railing with a flared metal beam guard rail was authorized to be installed to provide a safety barrier for vehicles, bicyclists, and/or pedestrians from accidentally falling off of the bridge deck. At that time, the Type 80SW railing was the only railing system approved by Caltrans for use on the Noyo River bridge (other than the existing Type 26 railing). Much of the discussion during the hearings on the replacement bridge project focused on the visual impacts the Type 80SW railing would have on views from the bridge to and along the coast and coastal scenic areas. Given the lack of viable alternatives at that time, the Commission approved the use of the Type 80SW, applying in-lieu fee requirements for the acquisition and development of an off-site vista point as mitigation to offset the unavoidable loss of views from the bridge and other visual impacts of the project.

The original permit has been subsequently amended twice to further allow: 1) a construction staging area to be established within the eastern 14,500 square feet of the Ocean Front Park parking lot and within the western ± 1.75 acres of the Noyo River dredge spoils disposal basin; 2) a detour road to be constructed at the North Harbor Drive entrance to Ocean Front Park; 3) reconfiguration of the park’s westerly 25 single-row, perpendicular parking spaces into 19 standard, 2 compact, and 1 handicapped-accessible diagonal spaces; 4) closure of access to Ocean Front Park for up to 140 days during the bridge replacement construction period; 5) modification of the egress route to the Ocean Front Park staging area for in-bound construction-related traffic to use the dredge spoils disposal facility access road; and 6) establishment of a vehicular parking and turning area within the Noyo Harbor area for use by the public during closures of Ocean Front Park.

Bridge Railing / Crash Barrier Options Developed Since 1999 Permit Approval

In seeking this permit amendment, Caltrans has continued to make a good-faith effort to accommodate ocean and harbor views in the current project. It should be recalled that

Caltrans had originally proposed a Type 26 concrete barrier and hand railing design that blocked substantially more of the current views. In response to local concerns over the loss of views that this design would cause, Caltrans sought to find a more “see-through” railing. Caltrans’ policy is that “all bridge railings must be crashworthy by testing following American Association of State Highway Transportation Officials (AASHTO) guidelines” and are accepted by the Federal Highway Administration (FHWA). In 1998, Caltrans found a new design, the Type 80SW, that was already in the process of being considered for approval. Caltrans was able to obtain approval of the Type 80SW for conditions with limited speeds, such as the proposed bridge. Caltrans presented the “see-through” design in their November 1998 Initial Study/Environmental Assessment for the Noyo Bridge Replacement Project and received approval for use of the railing by the Commission in March 1999.

Since the original permit approval in 1999, in which the Type 80SW was reluctantly authorized, Caltrans has researched and developed several other railing and crash barrier end-section systems pursuant to Federal Highway Administration test criteria articulated in National Cooperative Highway Research Program (NCHRP) Report 350. To date, a total of six bridge railing alternatives to the Type 80SW and six proprietary crash cushion end-sections (for use on any one of the four dual-rail systems) have been approved. Altogether, these railing and crash barrier systems provide the following options:

<u>Single Rail Systems:</u>	<u>Dual Rail Systems:</u>	<u>Crash Barrier End-Sections:</u>
Type 26	“Alaska”	QuadGuard®
Type 80SW	“Modified Wyoming”	REACT 350.4®
NETC	ST-10	TRACC™
	Type 80	ADIEM 350™
		CAT®
		TAU-II™

Railing Systems

Type 26

The Type 26 design (Exhibit No. 5, Figure No. 1) is a square type concrete railing. This model was originally proposed for the replacement bridge in 1998. After concerns were raised during early consideration of the project regarding the loss of views from the bridge, Caltrans substituted the Type 80SW design for the Type 26.

Type 80SW

The currently-approved Type 80SW (Exhibit No. 5, Figure Nos. 2-4) bridge rail is primarily intended for low speed applications of 70 km/hr or less. The Type 80SW functions primarily as a vehicular barrier and alone does not provide for pedestrian protection. Unlike the Type 80 bridge rail, the Type 80SW is built on a 200-mm-high

(approximately 8 inches) sidewalk rather than the bridge deck surface. The rail is fitted with a single metal tube spanning the gap and a 250-mm-high handrail attached to the top of the concrete barrier.

NETC

The NETC (New England Transportation Consortium) 4-Bar bridge railing (Exhibit No. 5, Figure Nos. 5-7) is a curb-mounted multi-rail system that was developed by an association of Northeast U.S. state transportation departments for use on highway bridges in that region. The NETC rail mounts on a 150-mm (6-inch) curb, reducing the clear opening to 226 mm (approximately 9 inches), and increasing the overall height of the rail of 1067 mm (approximately 39 inches). The original NETC 4-bar model rail has been modified by Caltrans for use on state highways within California.

“Alaska”

The Alaska Multi-State Bridge Railing (Exhibit No. 5, Figure Nos. 8-10) is a double tube steel rail mounted on top of a 7-inch-high concrete curb. The “Alaska railing” consists of two TS 127mm x 127mm x 7.9 m tubes supported by W200-mm x36-mm posts on 3050-mm centers set on a 180-mm high curb. The centerline of the lower rail is 410 mm above the riding surface and the centerline of the top rail is 765 mm above the deck.. Total rail height is 830 mm (approximately 33 inches).

“Modified Wyoming”

The Caltrans-modified version of the Wyoming TL-3/TL-4 railing (Exhibit No. 5, Figure Nos. 11-13) is a double tube steel rail mounted on top of a 150-mm-high (6-inch) concrete curb. The rail is constructed in modules of five 1625-mm (approximately 64 inches) ground-mounted steel posts with soil plates on 1220-mm (4-foot) centers, one same-size post at 1830 mm (6-feet), followed by standard box beam line posts on 1830 mm centers.

ST-10

The ST-10 bridge rail (Exhibit No. 5, Figure Nos. 14-16) is a recently-approved steel dual-rail system. The ST-10 closely resembles the “Wyoming” and similarly consists of a double tube steel rail mounted on top of a 6-inch-high concrete curb.

Type 80

The Type 80 bridge rail (Exhibit No. 5, Figure Nos. 17-19) is an 810-mm-tall (approximately 32 inches), reinforced concrete barrier similar to the Type 80SW. The rail has gaps which are 280-mm-high by 1620-mm-long, sitting 230 mm above the bridge deck surface. Considered by Caltrans to be an “aesthetic, see-through concrete bridge rail,” The Type 80 bridge rail was built and tested in accordance with NCHRP Report 350 and is now recommended for installation on California highways requiring “Test Level 4” (TL-4) bridge rails.

Crash Barrier End Sections

All of the dual rail systems require that one of the following crash cushions be installed at the end of the inside rail:

QuadGuard®

The QuadGuard® system (see Exhibit No. 6) consists of energy-absorbing cartridges surrounded by a framework of steel diaphragms and patented Quad-Beam® fender panels. This crash cushion is designed for hazards ranging in width from 610 mm to 2300 mm (24" to 7'6"). During head-on impacts, the system telescopes in on itself, crushing the cartridges to absorb the energy of the impact as it moves rearward. When impacted from the side, the system safely redirects the errant vehicle back toward its original travel path without allowing gating. Unlike gating crash cushions and end treatments, no clear zone is required behind the QuadGuard® system. The QuadGuard® extends 13' 1" in length, spans 2' in width, and stands 2' 8" in height.

REACT 350.4®

The REACT 350.4® (Reusable Energy Absorbing Crash Terminal) (see Exhibit No. 6) is a 70 km/h crash cushion composed of four high-molecular weight, high-density polyethylene cylinders. The REACT 350.4® extends 15' 8" in length, spans 3' in width, and stands 4' in height.

TRACCTM

The TRACCTM (Trinity Attenuating Crash Cushion) (see Exhibit No. 6) is designed for use in both permanent and work-zone applications and meets NCHRP Report 350, Test Level 3 requirements. The TRACCTM features an open design utilizing familiar galvanized steel components. The TRACCTM extends 21' in length, spans 2' 7" in width, and stands 2' 8" in height.

ADIEM 350TM

The ADIEM 350TM (Advanced Dynamic Impact Extension Module) (see Exhibit No. 6) crash cushion design entails a series of lightweight, crushable concrete modules engineered into an energy-absorbing system. Safer than sloped concrete barriers, easier to maintain than sand-filled barrels, easier to place and move around construction zones, ADIEM 350TM is far more affordable than complex systems. The ADIEM 350TM extends 10' in length, spans 2' in width, and stands 2' to 4' in height.

CAT®

The CAT® (Crash Cushion Attenuating Terminal) (see Exhibit No. 6) is a three-stage system that uses energy absorbing beam elements, breakaway wooden posts, and a cable anchorage system to prevent out-of-control vehicles from impacting fixed objects. The

system works by absorbing a vehicle's kinetic energy while bringing it to a controlled stop or redirects the forward motion of the vehicle, thus preventing the disastrous consequences of spearing, vaulting, or rollover. The CAT® extends 31' 3" in length, spans 2' in width, and stands 2' 3" in height.

TAU-II™

The TAU-II™ (see Exhibit No. 6) is a fully re-directive, non-gating crash cushion system with capacities for both low and high speed applications (30-70 mph) that is ideally suited for roadway hazards such as the ends of rigid barriers. The TAU-II™ has been crash-tested in accordance with NCHRP Report 350 test level 3 (TL-3) procedures. The TAU-II™ extends 26' 10" in length, spans 2' 9" in width, and stands 2' 11" in height.

Proposed Bridge Railing Substitution

The proposed amended project would allow an alternative bridge railing design to be used in place of the single-railing Type 80SW design previously approved under the original permit. An ST-10 dual railing and picket with a TRACC™ end section would be substituted to provide greater visibility of the ocean, headlands, and river to motorists, cyclists, and pedestrians crossing the bridge. The railing is proposed to be painted a dark-green color with the TRACC™ end sections having a zinc-galvanized metal beam finish.

D. Visual Resources.

The Fort Bragg LCP addresses visual resource and community character issues in part by incorporating Sections 30251 and 30253 of the Coastal Act in LUP Chapter XIV: Coastal Visual Resources and Special Communities.

LUP Policy XIV-1 states the "General Policy on Visual Resources:"

New development within the City's coastal zone shall be sited and designed to protect views to and along the ocean, be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

In introducing this policy, the LUP cites Coastal Act Policies 30106, 30251, and 30253, and goes on to state: "along Highway 1 the City's Scenic Corridor Design Review system should be used to implement this Coastal Act Policy," thereby incorporating these Coastal Act policies as certified LCP policies.

The text of LUP Chapter XIV, Section E specifically cites the aesthetic importance of the area affected by the proposed amended project:

There are several areas of special aesthetic importance within the annexed areas;...(2) the bluffs on Noyo Point; (3) the bluffs on Todd Point...

LUP Policy XIV-3 states:

The views from the bluffs at the mouth of the Noyo River shall be protected.

The Fort Bragg LCP zoning map applies the Scenic Corridor combining zone to the area around the Noyo River Bridge.

As incorporated into the LCP, the Scenic Corridor Combining Zone, Section 18.58.050 (C) sets standards for the design and appearance of new development:

1. *The structure shall be so designed that it in general contributes to the character and image of the city as a place of beauty, spaciousness and balance. (emphasis added)*
2. *The exterior design and appearance of the structure is not of a quality or scale so as to cause the nature of the neighborhood to materially depreciate in appearance and value.*
3. *The structure is in harmony with proposed adjacent development in the area and the Scenic Corridor Zone and in conformity with the general plan of the city.*

Zoning Code Section 18.61.028 (Coastal visual resources and special communities) specifically identifies the project vicinity as a scenic area:

- A. *The following shall be considered Coastal scenic corridors:*
 1. *Along the west side of Highway One.*
 2. *Along the bluff of the Noyo River including any area within viewing distance from the bluff...(emphases added)*
- B. *Permitted development within the Coastal scenic corridor, where otherwise consistent with the Coastal Land Use Plan, shall, as determined by the approving authority:*
 1. *Minimize the alteration of natural landforms.*

2. *Be visually compatible with the character of the surrounding area.*
3. *Be sited and designed to protect views to and along the ocean and scenic coastal areas.*
4. Wherever feasible, restore and enhance visual quality in visually degraded areas.

The area framed by the Noyo River bluffs in and around Noyo Harbor, the mouth of the river and Noyo Bay is an area of exceptional visual interest and scenic qualities. This fact is fully reflected in the Fort Bragg LCP, which designates the area a scenic corridor and an area of special aesthetic importance. In both general and very specific language as cited above, it calls for the protection of these scenic values and views.

With regard to visual and community character issues, the Fort Bragg LCP in part reiterates Sections 30251 and 30253 of the Coastal Act. LUP Policy XIV-1 states that new development within the City's coastal zone shall be sited and designed to protect views to and along the ocean, be visually compatible with the character of surrounding areas, and, where feasible, restore and enhance visual quality in visually degraded areas. In introducing this policy, the LUP cites Coastal Act Policies 30106, 30251, and 30253, and goes on to state: "...along Highway 1 the City's Scenic Corridor Design Review system should be used to implement this Coastal Act Policy," thereby incorporating these Coastal Act policies as certified LCP policies. The City's zoning map applies the Scenic Corridor combining zone to the area around the Noyo River Bridge.

As incorporated into the LCP, the Scenic Corridor Combining Zone, Section 18.58.05 (C) states that a structure shall be so designed that it, in general, contributes to the character and image of the City as a place of beauty, spaciousness and balance; that the exterior design and appearance of the structure is not of a quality or scale so as to cause the nature of the neighborhood to materially depreciate in appearance and value; and that the structure is in harmony with proposed adjacent development in the area and the Scenic Corridor Zone and in conformity with the LCP.

Zoning Code Section 18.61.028 identifies the area west of Highway One as a coastal scenic corridor. The entire area of the Noyo bluffs, the Noyo River and the Noyo Bay lying west of the highway are thus designated as "coastal scenic corridors." Section 18.61.028 further states that permitted development within the coastal scenic corridor shall minimize the alteration of natural landforms, be visually compatible with the character of the surrounding area, be sited and designed to protect views to and along the ocean and scenic coastal areas, and, wherever feasible, restore and enhance visual quality in visually degraded areas. The LCP zoning map designates parcels both west and east of the bridge as "SC", Scenic Corridor. Finally, the text of LUP Chapter XIV, LUP Policy XIV-3, and LCP zoning code section 18.61.028(A)(2) specifically identify the Noyo

River bluffs and “*any area within viewing distance from the bluff,*” as scenic areas where views must be protected.

In summary, the applicable standards of the LCP require that the proposed amended bridge railing system:

- Be sited and designed to protect views to and along the ocean, scenic coastal areas, and the mouth of the Noyo River;
- Be visually compatible with the character of surrounding areas and harmonize with adjacent development;
- Protect areas of unique character that are popular visitor destination points for recreational uses;
- Contribute to the character and image of Fort Bragg as a place of beauty, spaciousness and balance; and
- Minimize the alteration of natural landforms.

Protection of Views To and Along the Ocean and Scenic Coastal Areas

The proposed bridge railing amendment would incrementally reduce the obstruction of views to and along the ocean and coastal scenic areas. The proposed bridge would be highly visible from visitor destinations such as the hotels, restaurants and other viewing spots in the harbor, as well from recreational areas, and would affect views to and from the bluffs, the scenic setting at the mouth of the Noyo River, and the ocean.

The currently-approved Type 80SW bridge railing design would reduce the motorists' views from those currently available from the existing bridge. The Type 80SW design would block a portion of the view provided by the present barrier. As best as can be determined from the information provided, the Type 80SW railing, viewed straight on, would block somewhat more than 60% of the sightline between the top of the sidewalk and the top of the rail. Due to the increased thickness of the concrete barrier elements, a greater proportion of the area is blocked when viewed at an angle. For further reference, the existing bridge rail blocks approximately 25% of the area between the base and top of the rail, and because it is considerably thinner, obscures less area when viewed at an angle.

Table 1 below, provides a summary of the dimensional and view obstruction characteristic of the six bridge railing options. By comparison, three of the six railing systems would reduce the amount of visual obstruction by approximately 3% (NETC) to 17% (ST-10) from that would result from bridge construction using the currently-approved Type 80SW railing system.

Table 1: Summary Comparison of Bridge Railing Characteristics

Railing Attribute	Type 80	WY_{mod}	AK	ST-10	NETC	Type 26
Overall Height (in.)	31.8	32.7	31.6	32.6	51	32
Number of Rails	1	2	2	2	4	Solid
Combined Rail Thickness ¹ (in.)	11	14	10	8	20	4
Foundation Height (in.)	9	6	7	6	8	20
Combined Solid Surfaces ² (in.)	20.8	20	17	14	29	32
Combined Window Height ³ (in.)	11	12.7	14.8	18.7	22	N/A
Percentage Opacity ⁴	65.4	84.4	53.8	42.9	56.9	N/A
Maximum Post Spacing (ft.)	6.5	11.8	10	10	8	N/A

1 Refers to vertical dimensions of rail surfaces perpendicular to the road

2 Excluding vertical posts

3 Refers to vertical dimension of window openings

4 Refers to the percentage of the overall height of the railing obscured by solid surfaces

Note: Solid surfaces obstruct views while windows provide views. Bridge railings with minimum combined solid surfaces plus maximum combined height of windows are the most “see-through.” Totals may not sum exactly due to “rounding.”

Thus, based upon the above analysis, the proposed ST-10 railing system would substantially reduce view blockage from the Noyo River Bridge from that caused by the currently-approved Type 80SW railing system. Although it doesn't have the least number of rails or is the shortest in terms of base and overall height, the streamline design of the ST-10 system in terms of bulkiness of its components is its primary visual advantage over the other railing options. The combination of its nominal foundation and overall heights, together with the minimal thickness of its railings, and the wide spacing of its supports, work together to cause the ST-10 design to have the highest ratio of openings to solid surfaces. As a result, of the railing system options available for use on the Noyo River Bridge, with a 42.9% opacity rating the ST-10 is the most transparent design, causing the least amount of view blockage.

The various crash barrier end sections would much less impact on views from the bridge than the rails themselves. Assuming that a dual-rail system is to be substituted, only two end sections would be needed: one each on the outer sides of the roadways as they approach the bridge span. For the southbound side, the views of the harbor and river in this area are already obscured by the presence of the North Cliff Hotel. On the northbound approach, views inland of the river and Noyo Harbor area are blocked by a stand of approximately 80-foot tall Monterey pine trees growing along the southern banks of the river. Thus, the various crash cushion end sections would not appreciably affect coastal views.

Visual Compatibility with Surrounding Area/Character

As described above, the certified Fort Bragg LCP requires that new development within the City's coastal zone shall be sited and designed to be visually compatible with the character of the surrounding areas, and, where feasible, restore and enhance visual quality in visually degraded areas.

In determining whether the proposed project meets these requirements of the LCP, the Commission is faced with both objective facts and subjective judgments. It is a fact that the proposed bridge railing plays a dominant part in determining the amount of views towards and along the ocean and to other scenic areas from vehicles crossing the Noyo River. However, the manner in which the particular architectural design of a particular bridge railing design would affect the character of the area is more a matter of subjective judgment.

As to the first factually-based criterion, by all objective measurements, the proposed ST-10 railing when compared with the currently-approved railing and other options would increase the amount of area between the various rail beams, struts, and stanchions through which vistas of the river, ocean, and harbor areas might be viewed. With regard to the second, more bias-driven criterion, determining compliance with visual compatibility and harmoniousness of the surrounding area can be more elusive. One perspective, however, might be found in how well the proposed substitute bridge railing would "fit in" (i.e., match the predominant style and appearance) with the lower Noyo River environs.

The proposed replacement bridge railing / crash cushion system is a generally rectilinear assemblage of metal and concrete components ranging in height from three to four feet and spanning several hundred feet at the uppermost part of a pier foundation concrete span bridge, similar in overall appearance to railings typically found on many highways and roads throughout the state. By comparison, the character of the Noyo Harbor / Noyo River area proper is diverse study in contrasts. The lower Noyo River forms a valley that is to a significant degree physically and visually separated from the more urbanizing terrace areas of Fort Bragg described above. This area includes the harbor, the shoreline and mouth of the river, Noyo Bay and its opening to the ocean, Ocean Front Park, Jetty Beach, and the bluffs that frame the valley, including the blufftop area at both ends of the existing bridge. The harbor area itself is a working fishing village, with development that includes a variety of architectural styles. The area's open spaces, including the river itself and along the bluff faces, are also an important part of its character.

In sum, the character of the area may best be described as "eclectic." In view of this variety of styles, the visual changes associated with substitution of the proposed ST-10 railing system for the currently-approved Type 80SW bridge railing cannot, from a strictly architectural point of view, be determined to be out of character with the surrounding area. The Commission therefore finds that the proposed project is consistent with Section 30251's provisions regarding compatibility with the surrounding area.

Contribution to City's Beauty, Spaciousness, and Balance

The replacement bridge, including its railing, will continue to be a highly visible feature of coastal views afforded from visitor destination points and recreational areas in and around Noyo River. The prominence of the bridge makes the bridge one of the most significant elements defining the character of the area and to a large extent influences the overall visual aesthetic, the rhythm of solids and voids, and the overall deportment of the lower Noyo River / Noyo Harbor area directly.

With respect to contributing to the beauty, spaciousness, and balance of Fort Bragg, one of the most direct methods of assuring that the bridge railing would be an appropriate and supportive participant to the City's image would be to include architectural features within the bridge railing system that harmonize with and unify the area's various dominant visual attributes. As discussed in the preceding findings sub-section, the Noyo River/Harbor area does not have an overall unified theme or architectural style that the outward appearance of the railing could clearly emulate. Furthermore, given the functional requirements of a bridge railing system there are only so many modifications that can be feasibly made to its appearance before its inherent purpose as a transportation safety structure becomes compromised.

Therefore, in considering structures with limited design flexibility, making a contribution to the character and image of Fort Bragg as a place of beauty, spaciousness and balance may best be achieved by minimizing the visual ramifications of the structure on the landscape. Thus, in addition to taking efforts to assure that a permit amendment for a substitute bridge railing affords the least interference to views of the Noyo River / Noyo Harbor region, another measure to contribute to the aesthetic integrity of the City would be minimize the visual presence of bridge components to the greatest level feasible. To this end, Caltrans has included within the permit amendment application a provision that the proposed ST-10 railing be painted a dark-green color to mute the appearance of the railing, emulating the earth tones of the vegetation on the surrounding river banks.

The Commission concludes that further softening of the visual aspects of the proposed substitute railing system could be accomplished by utilizing the shortest length of crash barrier end section possible. The applicant proposes to use the TRACC™ end section onto the approach termini of the ST-10 railing. The TRACC™ would occupy a nearly 2½-ft width of the bridge decking for a 21-ft-length of the roadway edge. By comparison, the QuadGuard® end section at slightly over 13 feet in length and two feet in width would require only approximately 48% of the footprint of the TRACC™. Thus, the Commission finds that the use of the QuadGuard® end section in place of the proposed TRACC™ system would reduce the visual clutter on the bridge decking and would contribute to the City's beauty, spaciousness, and balance.

Additionally, the Commission notes that in a memo from the applicant's Landscape Architecture Office (see Exhibit No. 6), a concern was raised and a recommendation offered with regard to the proposed TRACC™ crash cushion:

The appearance of the TRACC crash cushion is incompatible with the green metal coating that is being [proposed to be] used on the ST-10 railing and lighting fixtures. Consider coating the TRACC end section, to blend with the dual rail system.

The Commission concurs that by painting the QuadGuard® crash cushion a dark-green color as that proposed for the railing the overall visual presence of the railing system would be further reduced. Further, by eliminating the contrast between the railing and end section finishes, a greater harmony of design would result among these bridge components.

Therefore, the Commission attaches Special Condition Nos. 18 and 19. Special Condition No. 18 requires that the applicant use the QuadGuard® end section as part of the substitute bridge railing system. Special Condition No. 19 further stipulates that the required QuadGuard® end section be painted consistent with the proposed substitute railing, as proposed by the applicant. The Commission finds that the proposed project, as conditioned, is consistent with Zoning Code Section 18.58.050 (C) as the proposed amendment will structure of the proposed substitute bridge railing / crash barrier has been designed such that that would contribute in general to the character and image of the city as a place of beauty, spaciousness and balance.

Minimization of Landform Alteration

Substitution of bridge railing and/or crash cushion systems will entail no alteration of landforms.

Conclusion

Thus, based on the above analysis, the Commission finds that the proposed substitute bridge railing system, with the modifications of utilizing the least visually obtrusive end section crash barrier and incorporating painting to blend the end section with other bridge components, will strike a visual balance between the natural and built environment elements of the lower Noyo River area. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with LUP Policy XIV-1 and Zoning Code Section 18.61.028.B as the proposed amendment will continue to protect views to and along the ocean and scenic coastal areas, minimize the alteration of natural land forms, be visually compatible with the character of surrounding areas, and be subordinate to the character of its setting. Furthermore, the Commission finds that the proposed project, as conditioned, is consistent with Zoning Code Section 18.58.050 (C) as the proposed amendment will structure of the proposed substitute bridge railing / crash barrier has been

designed such that that would contribute in general to the character and image of the city as a place of beauty, spaciousness and balance.

E. Public Access and Recreation.

Projects located within the coastal development permit jurisdiction of a local government are subject to the coastal access policies of both the Coastal Act and the LCP. Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions. Section 30210 states that maximum access and recreational opportunities shall be provided consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. Section 30211 states that development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation. Section 30212 states that public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, adequate access exists nearby, or agriculture would be adversely affected.

The certified City of Fort Bragg LCP includes policies that essentially reiterate these standards for providing and maintaining public access

In its application of these policies, the Commission is limited by the need to show that any denial of a permit application based on this section, or any decision to grant a permit subject to special conditions requiring public access is necessary to avoid or offset a project's adverse impact on existing or potential access.

The Noyo River Bridge proper is a form of coastal access facility. The structure provides a multi-modal crossing of the Noyo River that allows convenient lateral transit along the Mendocino County coastline for autos, bicyclists, hikers, and pedestrians. In the currently-approved bridge railing configuration, the Type 80SW would be constructed on the outboard sides of the bridge decking. No barrier would be provided between motorized vehicles traveling across the bridge, pedestrians and bicycle users. The proposed permit amendment would substitute a ST-10 dual railing wherein a crash railing would be erected between the vehicular travelway and the bikeway and pedestrian walkway and a picket railing on the outer edges of the bridge decking. This modification would result in greater safety being afforded to non-vehicular coastal users by partitioning auto traffic portions

Therefore, for the reasons discussed above, the Commission finds that the project as conditioned is consistent with the public access and recreation policies of the Coastal Act.

E. California Environmental Quality Act (CEQA).

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment.

The Commission incorporates its findings on conformity with the Coastal Act at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project which have been received as of preparation of this staff report. As discussed herein, in the findings addressing the consistency of the proposed project with the Coastal Act, the proposed project has been conditioned in order to be found consistent with the Coastal Act. Mitigation measures which will minimize all adverse environmental impacts have been required. As conditioned, there are no feasible alternatives or mitigation measures which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

EXHIBITS:

NOTE: The exhibits for this staff report are the same exhibits that are attached to the staff report for Permit Amendment Request No. 1-98-100-A3 (Caltrans, Mendocino County) which is also being considered by the Commission at the December 13th meeting as Item F7a. Please refer to that staff report for the exhibits. The exhibits are as follows:

1. Regional Location
2. Vicinity Map
3. Project Area
4. Boundary Determination No BD-12-98: Retained Jurisdiction/Appeal Area
5. Bridge Railing Alternatives
6. Proposed Substitute Bridge Railing, Discussion of Railing and Crash Barrier Alternatives, and Visual Impact Assessment
7. Caltrans' September 4, 2002 Noyo River Bridge Railing Public Workshop Handout and Questionnaire
8. Permit Special Conditions for Original and Past Amended Project (1-98-100, A-1-FTB-99-006, and A-1-FTB-99-006-A1)
9. Correspondence

APPENDIX A:

STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.